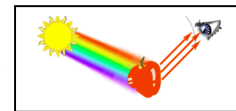


## Activity #6- Observing Colors- Student Answer Sheet-TEACHER'S COPY



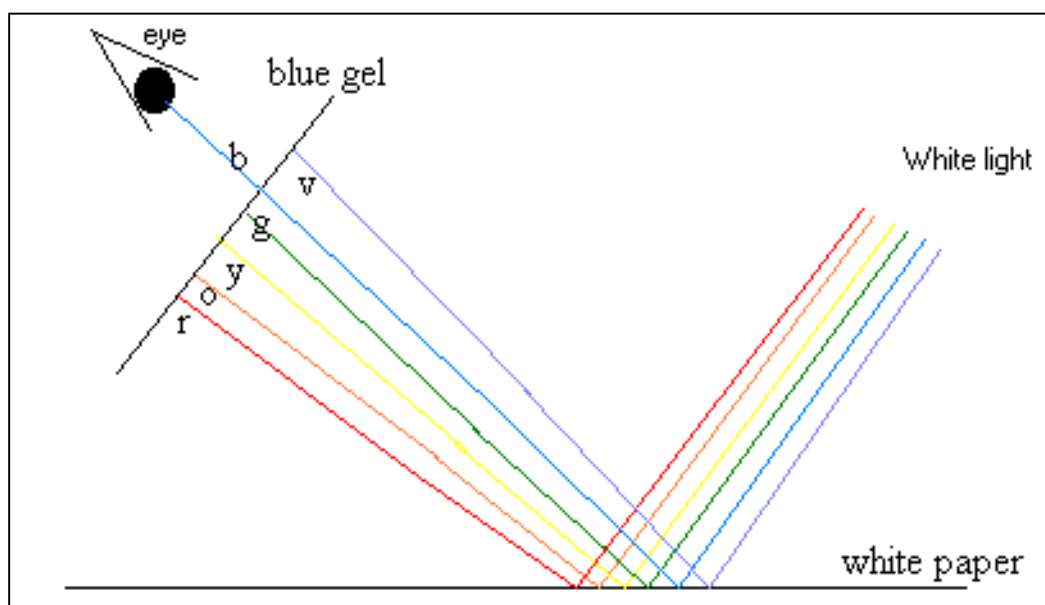
1. & 2.

	White paper	Black paper	Red paper
1. Red gel prediction	Answers may vary.	Answers may vary.	Answers may vary.
2. Red gel observation	Red	Black	Red
1. Blue gel prediction	Answers may vary.	Answers may vary.	Answers may vary.
2. Blue gel observation	Blue	Black	Black

Data Chart #1

- 3a. Yes, there is red light reflecting from the white paper.
- 3b. The white paper appears red when viewed through the red filter, which proves that red light is being reflected from the white paper.
- 3c. Yes there is red light reflecting from the red paper.
- 3d. The red paper appears red when viewed through the red filter, which proves that red light is being reflected from the red paper.
- 3e. There is no red light reflecting from the black paper.
- 3f. The black paper appears black in all instances which proves that no light is being reflected from this color of paper.
- 3g. Red light must be passing through the red gel.
- 3h. Blue light must be passing through the blue gel.
- 3i. The red and blue light is coming from the overhead room lights. These white lights are composed of a mixture of red, orange, yellow, green, blue and violet colors.

4.



5. If a red gel were used, only the red portion of the reflected white light would pass through the filter to the eye.

6. & 7.

	White paper/red crayon	Red paper/red crayon	Black paper/red crayon	White paper/blue crayon	Red paper/blue crayon	Black paper/blue crayon
6. Red gel PREDICTION	Answers may vary.	Answers may vary.	Answers may vary.	Answers may vary.	Answers may vary.	Answers may vary.
7. Red gel OBSERVATION	Disappears	Disappears	Red	Black	Black	Disappears
6. Blue gel PREDICTION	Answers may vary.	Answers may vary.	Answers may vary.	Answers may vary.	Answers may vary.	Answers may vary.
7. Blue gel OBSERVATION	Black	Disappears	Disappears	Disappears	Black, but difficult to see due to low contrast	Black, but difficult to see due to low contrast

Data Chart #2

8. Only blue light gets reflected from ANY blue object.

9. Only blue light gets transmitted through a blue filter (gel).

10. I know that blue light is reflected from the white paper because the paper appears blue when viewed through a blue filter. (...and only blue light is transmitted through a blue filter.)
11. The white paper appears blue because the blue light component of the white light illuminating it is reflected off the paper and is allowed to pass through the blue filter. The blue crayon also reflects the blue component of the white light falling upon it, and it also is passed through the blue filter. The blue text on a blue background creates no contrast, so the writing “disappears.”
12. Any color other than a red gel could be used to view a red message on white paper.
13. A red gel would be needed to view a red message written on a black paper.
14. Predictions may vary but because the outer edges of the Crab Nebula are red, one would use a red gel to observe this portion of the image. (This filter would block out the blue-green central region of the nebula.)
15. Answers may vary. (Yes or No)
16. If the blue gel were used to view the Crab Nebula, it would allow the central blue core to be visible, blocking out the red outer edge.